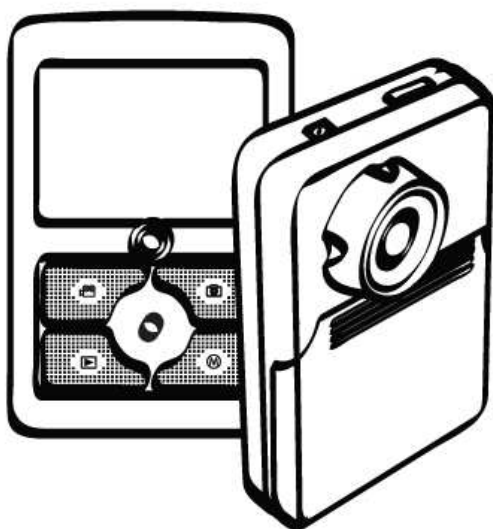


# MSR-200 High Definition Motorsports Camera



## USER MANUAL

### Welcome

Thank you for choosing the MSR-200 HD Motorsports Camera to pursue your digital video adventures. Whether you are racing at the track, off-roading in the desert or gliding through fresh powder on the trail, to get the utmost satisfaction from your digital video, please take a moment to read through this manual. Its contents will send you on an educational journey into your camera's multiple capabilities.

### 1. Camera Precaution

Before using the camera, please ensure that you read and understand the safety precautions described below. Always ensure that the camera is operated correctly.

- Never operate the camera inside of an aircraft or anywhere else where operation of such devices is restricted. Improper use creates the risk of serious accident.
- Do not aim the camera directly into the sun or other intense light sources which could damage your eyesight.
- Do not try to open the case of the camera or attempt to modify this camera in any way. High-voltage internal components create the risk of electric shock when exposed. Maintenance and repairs should be carried out only by authorized service providers.
- Keep the camera and its accessories out of the reach of children and animals to prevent accidents or damage to the camera.

- If you notice smoke or a strange odor coming from the camera, turn the power off immediately. Take the camera to the nearest authorized service center for repair. Never attempt to repair the camera on your own.
- Use only the recommended power accessories. Use of power sources not expressly recommended for this equipment may lead to overheating, distortion of the equipment, fire, electrical shock or other hazards.
- Never apply too much force when cleaning the surface of the lens to avoid scratches on the lens surface or any malfunction.
- The camera may become slightly warm during use. This does not indicate malfunction.
- If the exterior of the camera needs cleaning, wipe it with a soft, dry cloth.
- If there is leaking, discoloration, change of shape, rise in temperature, damaged exterior, strange odor or any other abnormal condition, immediately discontinue use and remove the battery pack from the camera, taking care to keep it well away from fire.

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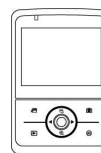
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## 2. Preparation

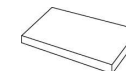
## Standard Accessories



Video Camera



User Manual



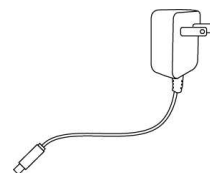
Lithium-ion  
Battery



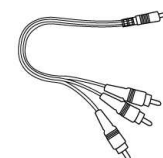
Remote Record Button



Remote Record Extension cable



AC Adaptor



TV cable



USB cable



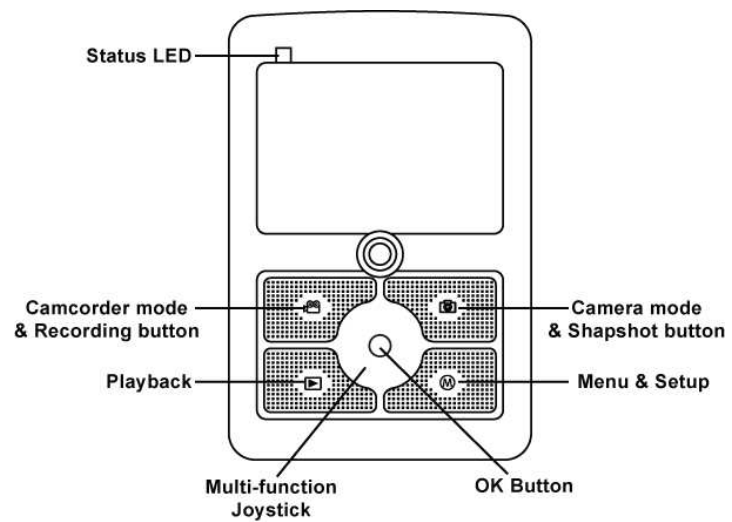
Automobile Power Cord



Suction Cup Mount

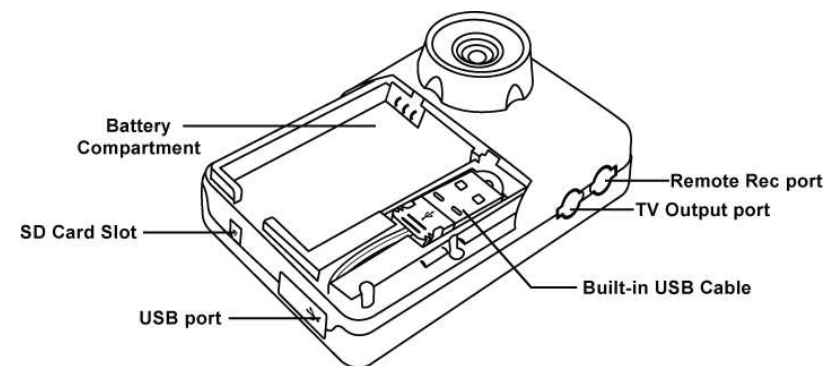
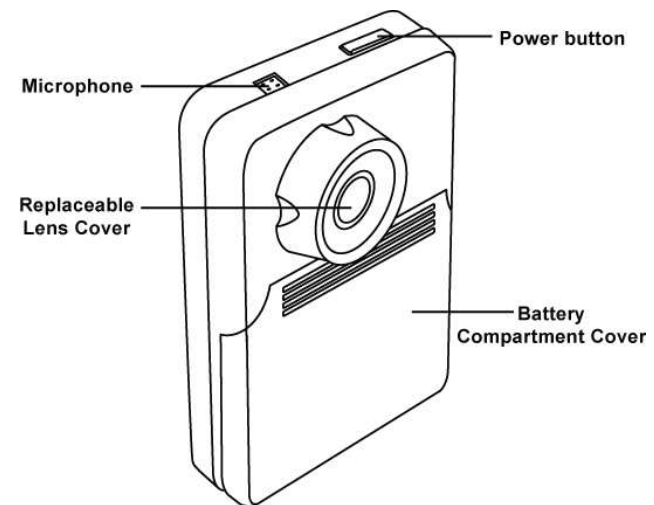
## Getting to know your MSR-200

## Front View



## Back View

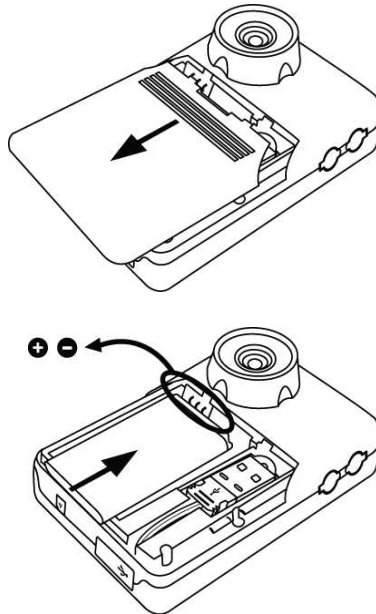
6



## Installing the Battery Pack

7

1. Open the battery compartment cover by lightly pressing and sliding it back as shown.
2. Insert the supplied battery. Make sure the battery label is facing upwards and the (+ and -) ends of the battery match to the polarities indicated in the battery compartment.
3. Snap the cover back into place.



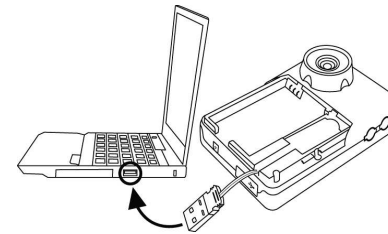
Battery power status



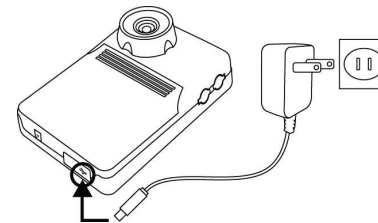
## Charging the Battery Pack

The battery pack is not charged at the time of purchase and therefore needs to be charged before use. If the battery charge becomes low while you are using the camera, it is recommended to recharge it as soon as possible.

1. Insert the battery pack into the battery compartment (see page 8)
2. You may charge the battery in 4 ways:
  - (a) Take the built-in USB cable out of the camera compartment and plug it into the USB port of your computer/notebook.

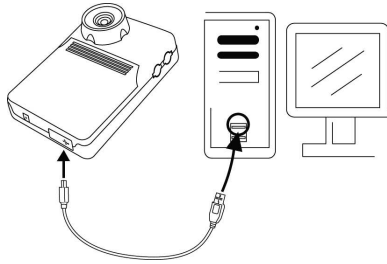


- (b) Plug the USB mini B of the supplied AC adaptor to the USB port of the camera, and plug the adaptor to the power outlet.

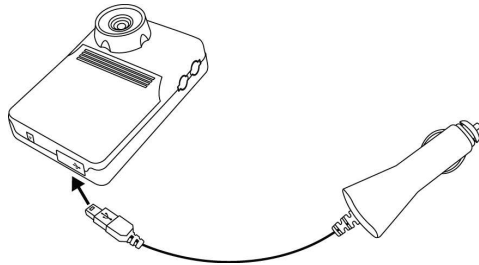


- (c) Plug the USB mini B of the supplied USB cable to the USB port of the camera, and plug the other USB

end into the USB port of your computer/notebook.



- (d) Plug the USB mini B of the supplied automobile power adaptor to the USB port of the camera, and plug the adaptor to a 12VDC automobile power source.

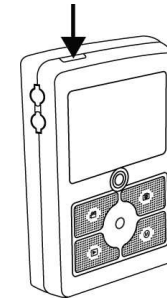


3. Red LED will light on during charging. When the battery pack is fully charged, the red LED light will be off and you may disconnect the charging connections.
4. Please charge the battery at least 3.5 hours prior to your first use.

### 3. Quick Start

#### Power ON

1. Press the POWER button to turn on the camera. A green LED lights up on the left-top when the power is on.
2. When the LCD Monitor has been activated, the camera is ready to use.



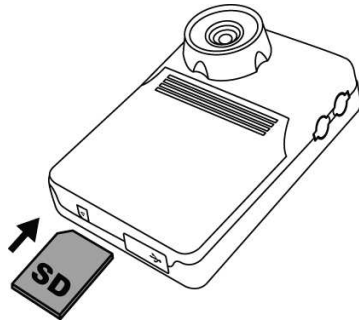
#### Power OFF

Note: The camera has an Auto Power Off feature to conserve power when not in use. If, during use, the camera is shutting off unexpectedly, check to make sure the Auto Power Off function is set to off. (see page 20)

#### Loading the SD Card

Insert SD card into memory card slot. The LCD will show

the SD card indicator in the lower right corner when an SD card is in the slot.



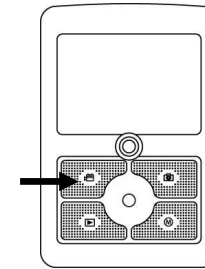
#### **When the optional SD card is installed:**

1. All videos and images by default will be automatically stored in SD card.
2. With SD card installed, the video clips/ images stored in the built-in memory cannot be viewed. To playback the video clips/ images/ audio clips stored in the built-in memory, remove SD card.
3. When you format Video Camera it will format the video clips/ images on SD card only. To format the video clips/ images stored in the built-in memory, remove the SD card.

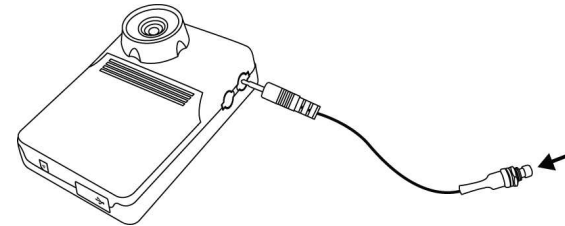
#### **Recording Video Clips**

There are 2 ways to record video clips with the MSR-200.

- (a) Press the CAMCORDER button to start recording. Press the CAMCORDER button again to stop recording.



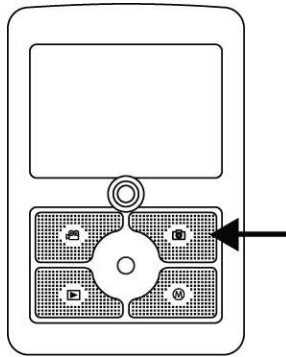
- (b) Plug the remote record button into the remote port as shown. Press the remote record button to start recording. Press the remote record button again to stop recording.



Note: Be sure that power is off when plugging in the remote cable. Plugging in the cable with the power on can cause the unit to lock up. If this happens, immediately remove and reinstall the battery.

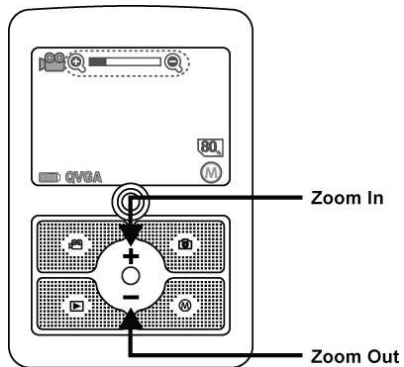
#### **Capturing Still Images**

1. Press the CAMERA button to enter Still Mode.
2. Press the CAMERA button to take a picture.




### Using the Zoom

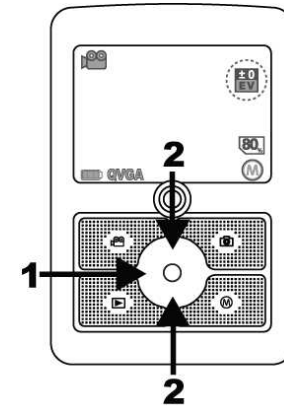
1. Under Camcorder mode or Camera mode.
2. Use the LCD monitor to frame your subject.
3. Press the + zoom in and - zoom out to adjust the zoom level.



### Adjust Exposure Compensation

1. Under Camcorder mode or Camera mode.
2. Press  to enter Exposure Compensation mode.

3. Press the  and  to adjust the exposure compensation.



Note: If using the MSR-200 inside a dark vehicle and exterior scenes are over exposed, try adjusting the exposure level down to improve overall picture.

### Mounting the MSR-200

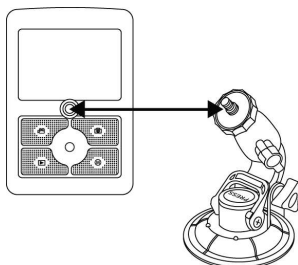
The MSR-200 can be mounted to a windshield, dash board, body panel or any other semi-flat, non-porous



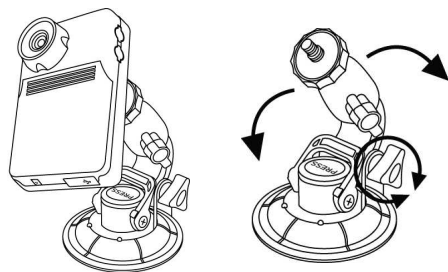
surface using the included suction cup mount.

Attaching the MSR-200 to the suction cup mount

1. Thread suction mount in to threaded insert on MSR-200.



2. Orient MSR-200 in desired position on mount and tighten hand wheel until snug.

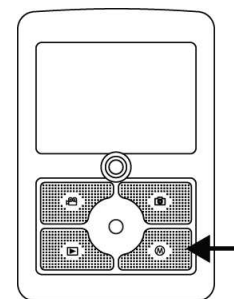


Note: If needed, the mounting arm can be remove and attached in the opposite direction to provide additional mounting position options.

Mounting the unit with lever in up position, press suction cup firmly against mounting surface and rotate lever downward.

#### 4. Menus and Setup

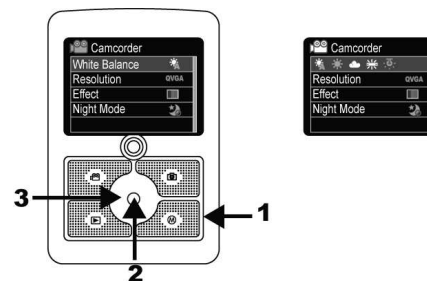
Press MENU button to access setup menus in Camcorder or Camera mode. To exit menus press MENU button.



#### Camcorder/ Camera Mode

##### White Balance

1. Press MENU button in Camcorder mode or Camera mode.
2. Press OK button to select White Balance mode.
3. Press ► to select Auto/ Sunny/ Cloudy/ Tungsten/ Fluorescent according to various lighting conditions. Press OK button again for confirmation.

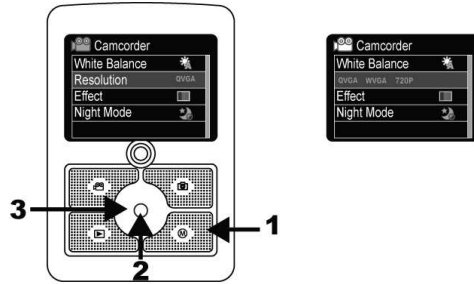


Note: You can also adjust the white balance while in camcorder or camera mode simply by pressing.

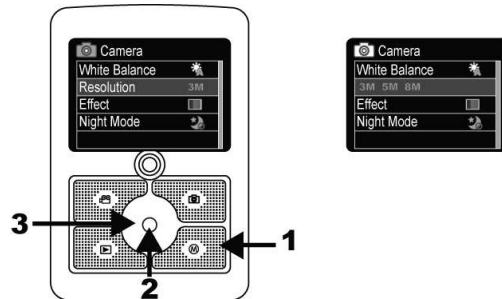
##### Resolution

1. Press MENU button in Camcorder mode.
2. Press ▼ to select Resolution mode and press OK button.

- Press **▶** to select QVGA(320x240)/ WVGA(854x480) / 720P(1280x720). Press OK button again to set.



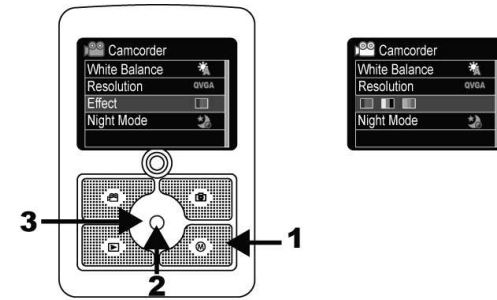
- Press MENU button in Camera mode.
- Press **▼** to select Resolution mode and press OK button.
- Press **▶** to select 3M(2048x1536)/ 5M(2592x1944) / 8M(3200x2400). Press OK button again to set.



### Effect

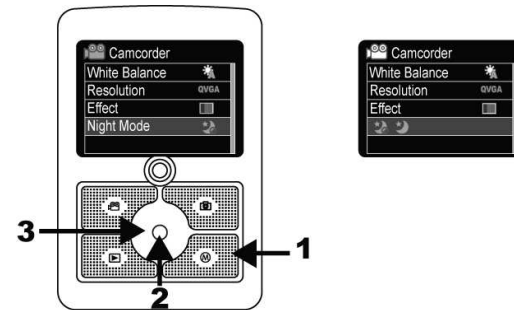
- Press MENU button in Camcorder mode or Camera mode.
- Press **▼** to select Effect mode and press OK button.

- Press **▶** to select Normal/ Black & White/ Sepia. Press OK button again to set.



### Night Mode


- Press MENU button in Camcorder mode or Camera mode.
- Press **▼** to select Night mode and press OK button.
- Press **▶** to select Night mode Off/ Night mode On. Press OK button again to set.

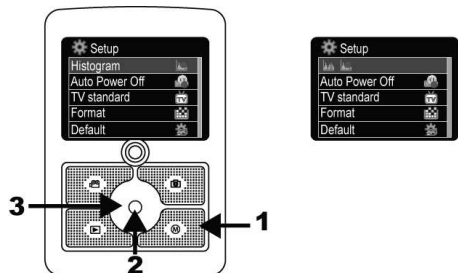


### Setup



#### Histogram

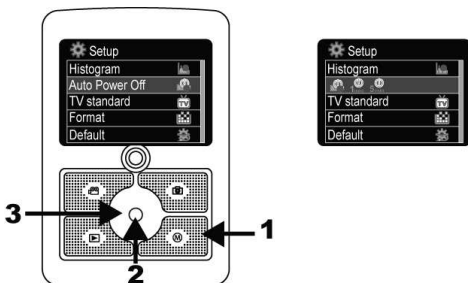
- Press MENU button twice in Camcorder mode or Camera mode.

2. Press OK button to select Histogram.
3. Press  to select Histogram On/ Histogram Off.  
Press OK button again to set.




### Auto Power Off

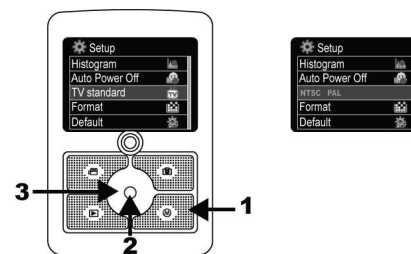
1. Press MENU button twice in Camcorder mode or Camera mode.
2. Press  to select Auto Power Off and press OK button.
3. Press  to select Auto Power Off/ 1 min/ 5 min.  
Press OK button again to set.





### TV standard

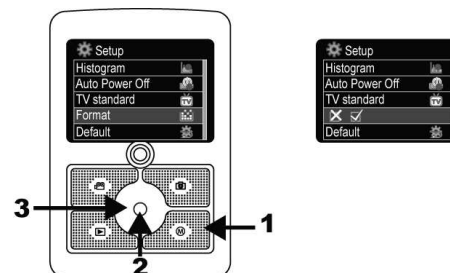
1. Press MENU button twice in Camcorder mode or Camera mode.
2. Press  to select TV Standard and press OK button.

3. Press  to select NTSC/ PAL.  
Press OK button again to set.





### Format

1. Press MENU button twice in Camcorder mode or Camera mode.
2. Press  to select Format and press OK button.
3. Press  to change "V" to check box symbol and press OK button again for confirmation to format memory card or internal memory if no SD card is installed.

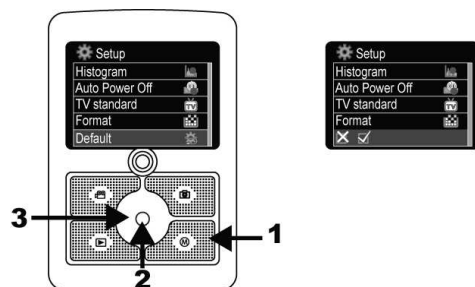


Note: Formatting the memory card or internal memory will erase any saved files even if they are protected.

### Default

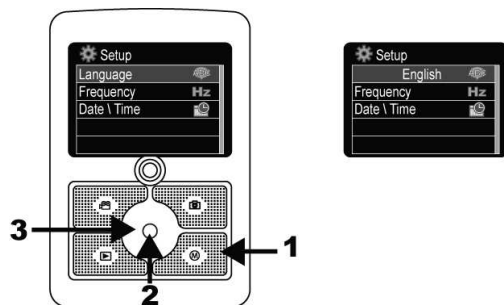
1. Press MENU button twice in Camcorder mode or Camera mode.
2. Press  to select Default and press OK button.
3. Press  to change "V" to check box symbol and

press OK button again for confirmation to change to the default setup.



### Language

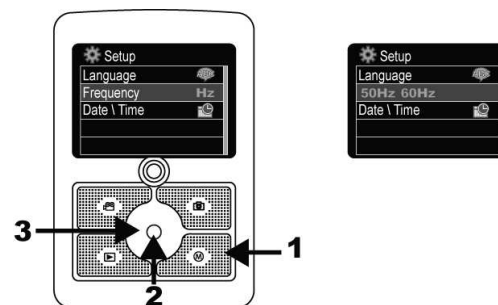
1. Press MENU button twice in Camcorder mode or Camera mode.
2. Press ▼ to select Language and press OK button.
3. Press ► to select English/ French/ German/ Spanish/ Italian.  
Press OK button again to set.



### Frequency

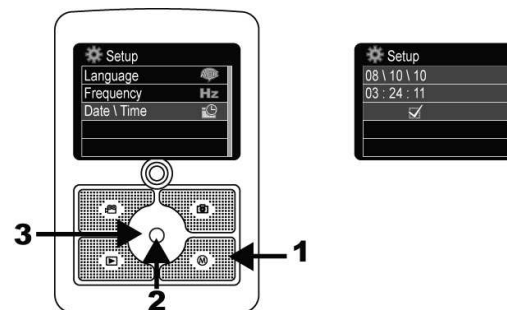
1. Press MENU button twice in Camcorder mode or Camera mode.
2. Press ▼ to select Frequency and press OK button.

3. Press ► to select 50Hz/ 60Hz.  
Press OK button again to set.



### Date/ Time

1. Press MENU button twice in Camcorder mode or Camera mode.
2. Press ▼ to select Date/ Time and press OK button.
3. Press ► to select Year/ Month/ Day/ Hour/ Minute/ Second and press ▲ and ▼ to adjust number.  
Press OK button again to set.

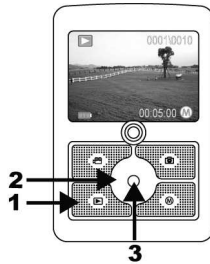


## 5. Playback Mode & Delete

### Playing your Movies

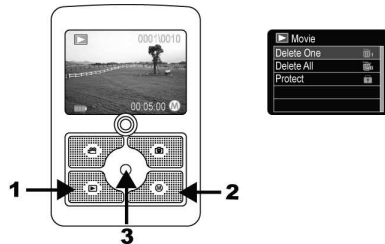
1. Press PLAYBACK button.

2. Press **▶** to select the movie you want to view.
3. Press OK button to playback the selected movie.



### Deleting and Protecting Movies

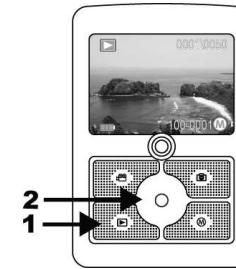
1. Press PLAYBACK button and then press MENU button.
- 2(a).Delete one: Press OK to select Delete One. Press **▶** to select movie you want to delete. Press OK to delete.
- 2(b).Delete All: Press **▼** to select Delete All. Press OK. Press **▶** to select. Press OK to delete all movies. Note: protected movies will not be deleted
- 2(c).Protect: Press **▼** to select Protect. Press OK. Press **▶** to select movie you want to protect. Press OK to protect movie.
3. Press MENU button again to return to playback mode.



### Viewing your

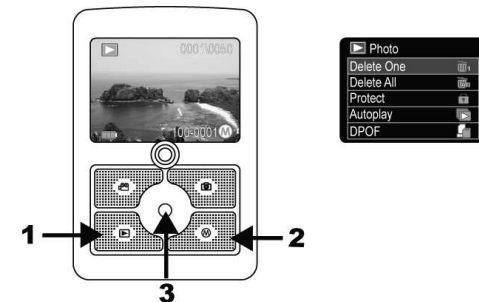
### Photos

1. Press PLAYBACK button.
2. Press **▶** to select the photo you want to view.



### Deleting and Protecting Photos

1. Press PLAYBACK button and then press MENU button.
- 2(a).Delete One: Press OK to select Delete One. Press **▶** to select photo you want to delete. Press OK to delete.
- 2(b).Delete All: Press **▼** to select Delete All. Press OK. Press **▶** to select. Press OK to delete all photos. Note: protected photos will not be deleted.
- 2(c).Protect: Press **▼** to select Protect. Press OK. Press **▶** to select photo you want to protect. Press OK to protect photo.
3. Press MENU button again to return to playback mode.

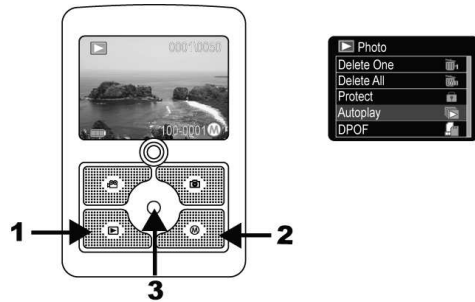


### Photo Auto

### Play

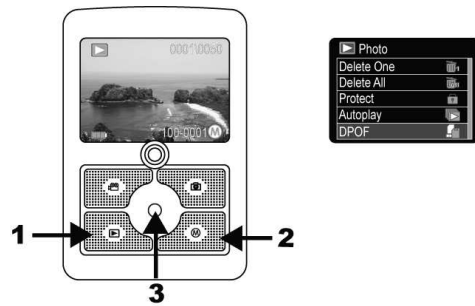
1. Press PLAYBACK button and then press MENU button.
2. Press **▼** to select Autoplay for photos slide show and then press OK button for confirmation.

3. Press PLAYBACK button to stop.



### DPOF

1. Press PLAYBACK button and then press MENU button.
2. Press ▼ to select DPOF for photo is to be printed on compatible print devices.



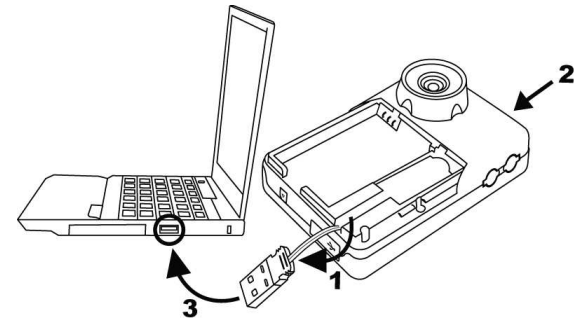
## 6. Connecting and Uploading

This Video Camera is embedded MediaImpression, it's easy for you to download movies and photos to your notebook without CD installation.

## Connecting to PC/ NB and Install MediaImpression

For first time users, please remove SD card from the Video Camera before connecting to the computer/notebook.

1. Open the battery compartment cover by lightly pressing and sliding it. Take the built-in USB cable out of compartment.
2. Power on the video camera.
3. Plug the USB cable of the camera into the USB port of a notebook properly.
4. Select **HD DV** and click "OK".
5. The embedded MediaImpression will be installed automatically.
6. Close MediaImpression.



### When your OS AutoRun function is Disabled:

The embedded MediaImpression can not be installed automatically.

1. Follow above steps 1, 2 and 3.
2. Click "My computer" icon on the Windows desktop.

3. Select “HDDV” device
4. Click “mi.exe”, and then install MediaImpression.
5. Close MediaImpression when installation is complete.

**Make sure you have the admin access:**

To install software, you may need to be logged in as an administrator on the computer. If you are not sure if you have administrator access, contact the computer owner or your system administrator.



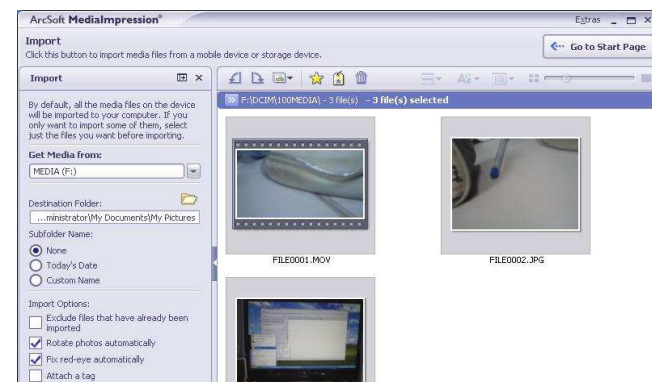
3. The embedded MediaImpression will pop up on the screen.

**Download Movies and Photos**

1. Power on the video camera.
2. Plug the USB cable of the camera into the USB port of a notebook properly. Select **HD DV** and click “OK”.

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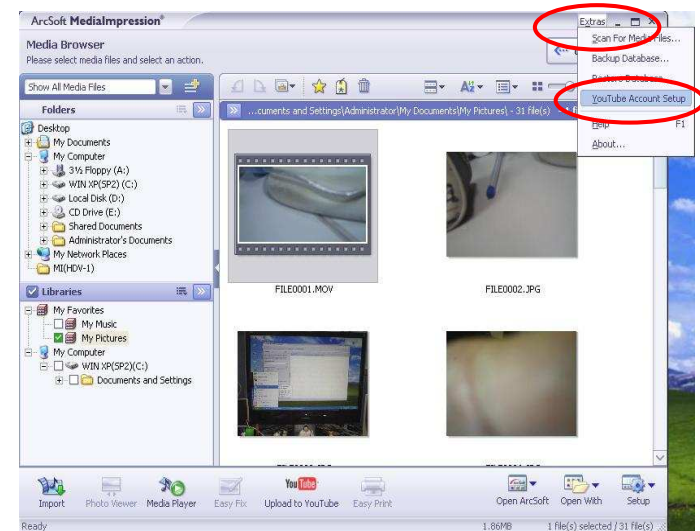
4. Click “Import” to download and save videos/ pictures to designated folder or album.





using for the first time:

1. Click “Extras” and choose “YouTube Account Setup”.



5. Click “Done”. Click “Delete Original File” to delete all videos and pictures from SD card after downloaded.



### How to share and upload your movies to YouTube

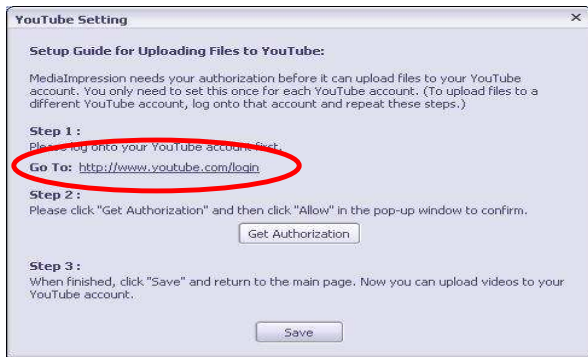
**For users without YouTube Account, sign up for an account first.**

**For users with YouTube Account already, log in when**

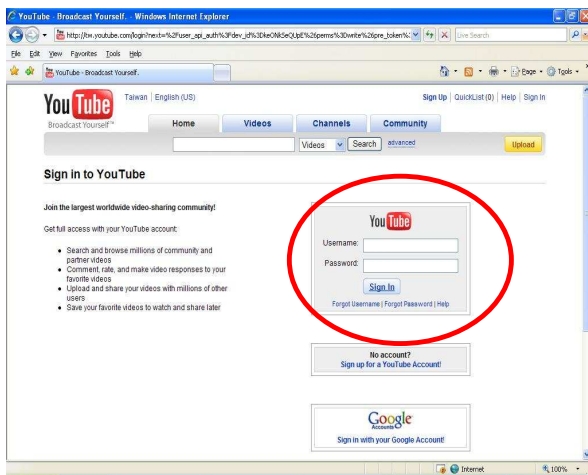
2. To complete the setup account or log in steps accordingly.

(a) Log in your YouTube account first if you have your own existing account.

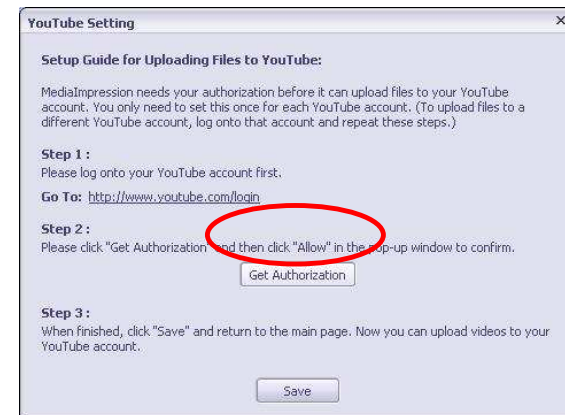
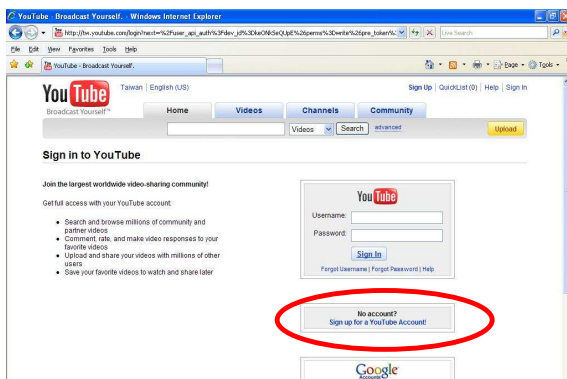




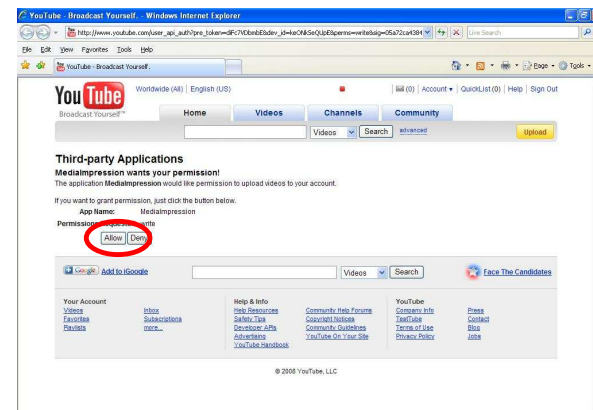
### 3. Click "Get Authorization"



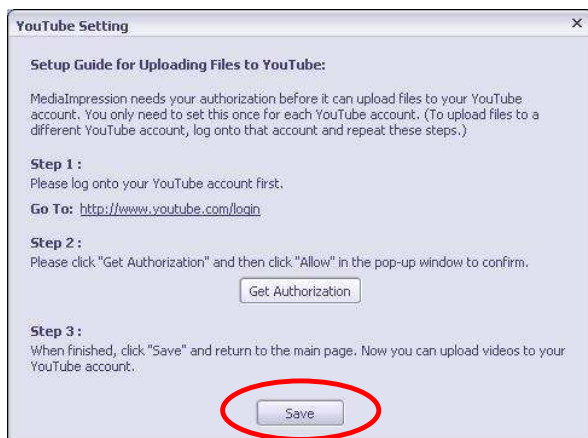
(b) Sign up for your YouTube account first if you do not have one.



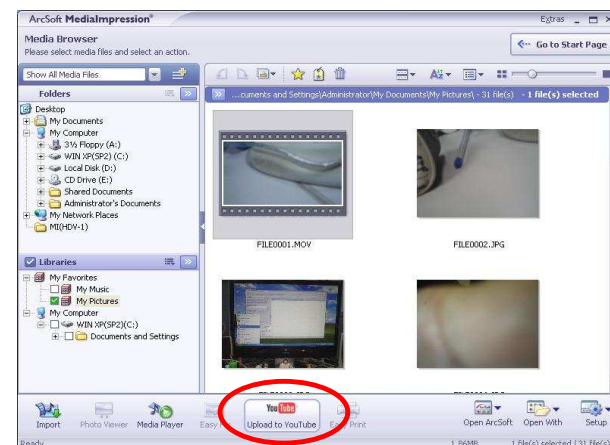
### 4. Click "Allow" in the pop-up window to confirm.



5. When finished, click “Save” and return to the main page.  
Now you can upload videos to your YouTube account.

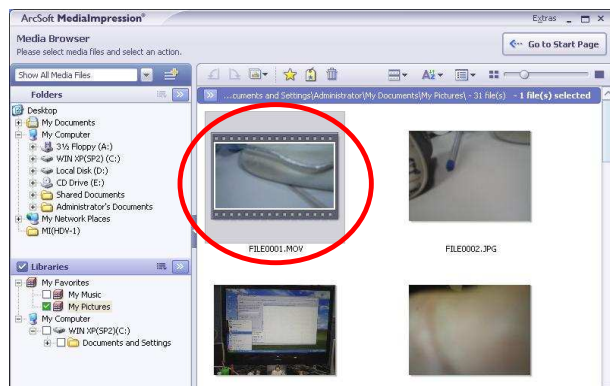


7. Click “Upload to YouTube”.



### Upload your videos to YouTube:

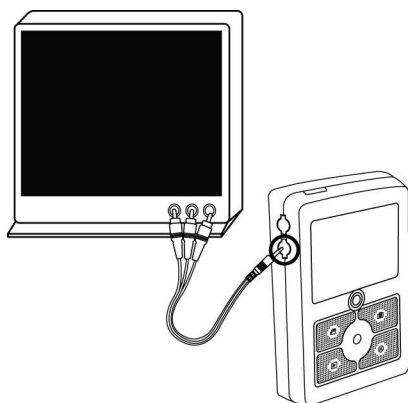
6. Select the video you want to upload on YouTube.



### Connecting to TV or HDTV

1. Before connecting the video camera to TV, please make sure to set it to the correct video signal standard (NTSC or PAL).
2. Plug TV cable (the black end) into the AV port of the

- camera. Connect TV cable to the audio- right channel (red), audio-left (white) and video-in (yellow) of your TV.
3. Turn on the camera and TV.
4. Select “TV” icon, now you can review movies on TV.



## 7. Appendix

Specification	
Image Sensor	CMOS 2592x1944 pixels
Built-in Memory	64MB Flash memory
External Memory	SD/ SDHC card (up to 32GB)

Display	2.4" TFT
Lens Specification	F2.0, f=3.6mm, Fixed
White Balance	Auto, Day light, Shade, Tungsten, Fluorescent
Exposure	Auto, $\pm 2.0$ EV, 0.5 EV steps
Video Mode	1280x720 (HD) @ 30fps 854x480 (WVGA) @ 60fps 320x240 (QVGA) @ 30fps
Still Image Res.	3M (2048x1536) pixels 5M (2592x1944) pixels 8M (3200x2400) pixels by interpolation
Compression	Movie- H.264 MOV: Still-JPEG
PC Interface	USB 2.0
Microphone	Built-in
Video Output	NTSC/ PAL
O/S	Window 2000/ XP/ Vista
Power	Rechargeable Li-ion battery, built-in charger, Automobile power adapter, AC adapter
Dimension	6.5(L) x 9.6 (W) x 2 (H) cm
Weight	105g (with battery), 82g (without)
Embedded software	ArcSoft MediaImpression
Specifications are subject to change without prior notice.	

### Computer System Requirement

- Windows<sup>®</sup> XP SP2 / Vista<sup>™</sup>
- Pentium 4 3.0GHz or Intel Core2 Due 2.13GHz or above
- System RAM 1G recommended

- 300MB available hard disk space
- 800x600 pixels, 16-bit color monitor or above
- nvidia geforece 7600 or ATI x1600 or above display card with 256 MB of RAM
- MicroSoft Window Media Player 9.0 or higher
- MicroSoft Direct X 9.0 or higher
- Apple QuickTime<sup>®</sup> 7.0 or higher recommended
- Free USB2.0 port

This warranty shall not apply to any item subject to misuse including static discharge, failure by Buyer to follow instructions, product modification, ordinary wear and tear, negligent or improper operation, or which has been installed or soldered or altered during assembly or use and is not capable of being tested or resold. Modification, repair, or attempted repair by anyone other than Hoyt Technologies without the written permission of Hoyt Technologies will void this limited warranty. Software purchases are covered by the GPV Systems License agreement and are not covered under this warranty.

This symbol on the product or in the instructions means that your electrical and electronic equipment should be disposed at the end of its life separately from your household waste. There are separate collection systems for recycling in the EU. For more information, please contact the local authority or your retailer where you purchased the product.



## Battery Handling

The lithium-ion battery may present a hazard if mistreated. Do not disassemble, crush, or puncture the lithium-ion battery. Do not immerse battery in water and store in a cool dry place when not in use. Do not use or leave battery near a heat source or in direct sunlight.

Do not dispose of either the MSR-200 or lithium-ion battery in a fire. Dispose of batteries in accordance with local laws and regulation.

Use only the lithium-ion battery specified for use in the MSR-200. Using any other lithium-ion battery may invalidate the warranty provided by Hoyt Technologies, Inc. and may present a risk of fire or explosion.

## Limited Warranty

Hoyt Technologies warrants all merchandise against defects in material or workmanship for 12 months from date of purchase unless otherwise specified. The Hoyt Technologies warranty is limited to the replacement or repair of the defective item at no charge if we determine such item to be defective.